

### **Amendments to the Specification:**

Please amend the passage at page 3 lines 8-27 as follows:

The rapid growth in multi-media content on the Internet (e.g. the unprecedented growth in MP3 audio), the massive growth in customer connection to the Internet, and the scale of recent industry mergers (aimed at exploiting the Internet for multimedia delivery to the home) are all indications of the importance of broadband access technology. Indeed, in North America at the end of 1999, in excess of six hundred thousand (600k) xDSL lines had been deployed, with these numbers rapidly accelerating. In fact, xDSL deployment projections in North America suggest that these will exceed two-and-a-half million connections by the end of 2000. Moreover, with increasingly versatile multimedia content available via the Internet, there is a blurring of the traditional boundaries between different delivery channels (e.g. UHF transmissions for TV, CDs and cassettes for music and the ~~telephome~~ telephone line for ~~telephomes~~ telephones) and their associated terminal device. Increasingly, the content delivered over the standard ~~telephome~~ telephone network (using xDSL technology) is aimed at the PC, the TV, the Hi-Fi Stereo system or the ~~telephome~~ telephone. However, for practical large scale deployments of xDSL, customers are typically limited to less than 2Mbps downstream and 256kps upstream. The upstream bandwidth in particular may be limiting for some applications. The bandwidth limitation of a single practical DSL link is therefore a key issue in the growing demand for multimedia services to the home, and the ability to offer bandwidth beyond this limit will be a highly desirable capability for a service provider.

Please amend the passage at page 4 lines 23-25 as follows:

The control functionality preferably includes a ~~prioritisation~~ prioritisation function that secures a guaranteed minimum bandwidth for communication with the core network for its associated data equipment, such as supported by an associated LAN.

Please amend the passage at page 12 lines 8-21 as follows:

Turning to the internal architectures of the household or office environments (i.e. serviceable locations 14-28), each will include some form of interface, as previously indicated, to allow an access path to the access multiplexor 30. Some of the household or office environments may have basic xDSL or relatively simple narrowband modems, but at least some of the serviceable locations 14-28 include a home-gateways 68-72 that supports a high bandwidth connection path to the core network 12. The home-gateway 68-72 is an interface that allows an in-house (or in-office LAN 74-78, as the case may be) to provide service to a plurality (but at least one) device within the house. For example, the home-gateway 68-72 provides access to communication bandwidth for use by computers, household systems (such as security systems and electrical appliances), and HiFis. In other words, each home-gateway integrates an access modem (e.g. xDSL) and home-networking functionality to distribute multimedia and voice content to/from and between home terminals (e.g. PC, TV, ~~telehome~~ telephone, etc).

Please amend the passage at page 12 line 27 to page 13 line 4 as follows:

It will be understood that the detail of each serviceable location in FIG. 1 has been omitted for the sake of clarity of the figure, although the general structural requirements of the system of the preferred embodiment are shown

within various of the serviceable locations 14-28. Each home-gateway 68-72 of the preferred embodiment therefore includes control logic 80 and some associated memory 82, as well as a transceiver 84 that supports the RF LAN 76. As will be described later, the control logic is provisioned to provide ~~prioritisation~~ prioritisation, arbitration and encryption functions.

Please amend the passage at page 15 line 9 to page 16 line 4 as follows:

The network is further shown to contain access control logic 100 (and an associated memory device 102) that co-operate with a consolidation function 103 to provide routing control of downlink data and re-assembly control of upstream data, such as communicated in the form of data packets. The access control logic instructs the consolidation function 103 to direct downstream information packets to the direct link to an end customer or to an indirect link via another customer attached to the VNN according to congestion conditions, taking into account any priority traffic using the indirect link for traffic intended for the other customer. In the upstream direction, traffic associated with a particular customer arriving on either the direct link from that customer or on any indirect link is reassembled into one or more traffic streams for access to the customer's one or more service providers. The network 12 of FIG.2 is thus shown to interconnect to different services, including data repositories (or other network service peripherals) 110, ~~servers 444~~ servers 112 and other communications networks, including Public Switched ~~Telephone~~ Telephone Networks (PSTNs) 114 and cellular networks 116. In a packet based switch system, the routing and resolution functions would normally make use of addressing information associated with the packets. The data packets 104 generally include a header containing control overhead, including for example, address information, routing information and conventional coding information, and a data ~~partie~~ portion. The access

consolidation function 103 may contain capabilities such as packet re-ordering, address translation, encryption, decryption and prioritisation. In FIG.2 the access control logic and the access consolidation function are shown as residing close to a single access multiplexor. In a practical network implementation the access control logic and access consolidation function may be associated with a plurality of access multiplexors and may also reside elsewhere, such as at the site of an Internet Service Provider.

Please amend the passage at page 16 lines 17-22 as follows:

Referring briefly to FIG. 2, roll-out and migration of the present invention is illustrated within the communication system 10 of FIG. 1. The network 12 of FIG. 2 is also shown to interconnect to different services, including data repositories (or other network service peripherals) 110, servers 112 (which may act as charge centre for billing purposes) and other communication networks, including public switched ~~telephone~~ telephone networks (PSTNs) 114 and cellular networks 116.

Please amend the passage at page 21 lines 7-26 as follows:

It will, of course, be appreciated that the above description has been given by way of example only and that modifications in detail may be made within the scope of the present invention. For example, the underlying inventive concept is applicable to a multitude of readily appreciated connection media between the home-gateway and either the exchange/base station transceiver or any interconnected distribution point (e.g. a curbside unit or cabinet). Therefore, it will be understood that the preferred embodiment has merely utilised a wireline (copper-drop) connection scheme for the sake of explanation only.

Furthermore, whilst the preferred embodiment of the present invention contemplates that gateway interconnection within the virtual neighbourhood network of the present invention is based on an extension of an RF LAN, it will clearly be understood that direct physical forms of connection between gateways could be undertaken. Indeed, in housing developments, such direct house-to-house connections house-based LANs may be easy to install, significantly cheaper and more desirable (in view of a prevalent RF interference environment) than an alternative RF system. As regards the communication protocol used, digital subscriber line (xDSL) technology is only one such exemplary form of communication mechanism that may be deployed within the scope of the present invention, since other communication techniques (apparent to the skilled addressee) may benefit from concept of a virtual neighbourhood network architecture as expounded in detail above.